

Claims

1. A method for manufacturing a starch-containing product in particle form, **characterized** in that a material containing starch granules and lipids is moistened, the material is treated so as to damage the starch granules and to partially release their amylose and amylopectin so that lipids are bound to them, the plastic mass obtained by the treatment, wherein the damaged starch acts as a binder, is dried and the dried mass is broken up in particles.
2. A method according to Claim 1, **characterized** in that the material to be moistened, which forms the starting material, is powdery.
3. A method according to Claim 1 or 2, **characterized** in that the material is moistened to a moisture content of about 21 – 26%.
4. A method according to any of the preceding claims, **characterized** in that the starch is damaged by means of leading the moistened material through an extruder or an expander.
5. A method according to any of the preceding claims, **characterized** in that the amount of energy used for damaging the starch is 22 – 30 kWh/1000 kg of material.
6. A method according to any of the preceding claims, **characterized** in that in connection with moistening, the material is heated so that partial damage to the starch is caused.
7. A method according to any of the preceding claims, **characterized** in that the temperature of the material in the stages of treatment that damage the starch is not more than about 105°C.
8. A method according to any of the preceding claims, **characterized** in that the material is treated so that the degree of damage to the starch granules is about 30 – 60%.
9. A method according to any of the preceding claims, **characterized** in that the dried mass is disintegrated by means of grinding so as to form granules.
10. A method according to any of the preceding claims, **characterized** in that the particle size of the end product is larger than that of the starting material that is moistened.
11. A method according to any of the preceding claims, **characterized** in that the starch is partially or fully amylaceous starch.

12. A method according to Claim 11, **characterized** in that the starting material that is to be moistened is oat meal having a starch content of at least about 50%, preferably about 70 – 90%, and the fat content about 5 – 8%

5 13. A method according to Claim 11, **characterized** in that the moistened starting material is constituted by starch granules, which contain starch and fat and have been separated from the other ingredients of the oat grains.

14. A method according to Claim 11, **characterized** in that the moistened starting material contains avenaceous starch or oat meal combined with a carrier in particle form.

10 15. A method according to any of the preceding claims, **characterized** in that fat is added to the starch-containing material that is to be processed, the fat at least partially binding itself to the damaged starch.

15 16. A starch-containing product in particle form, which can be manufactured by a method according to any of the preceding claims, **characterized** in containing damaged starch, wherein the amylose and amylopectin of the starch granules are partially released, while the starch acts as a binder holding the particles together, and lipids bound by the starch, their amount being at least 2% as calculated from the amount of starch.

20 17. A starch-containing product in particle form, which can be manufactured by a method according to any of Claims 1 to 15, **characterized** in containing damaged starch, wherein the amylose and amylopectin of the starch granules are partially released, while the starch acts as a binder that keeps the particles together, and lipids, which in the product are essentially fully bound into complexes.

25 18. A product according to Claim 17, **characterized** in that the starch content of the product is at least 50% and the fat content at least 1%.

19. A product according to Claim 17 or 18, **characterized** in that the degree of damage to the starch granules is 30 – 60%.

20. A product according to any of Claims 17 to 19, **characterized** in that there are undamaged starch granules left in the product.

30 21. A method according to any of Claims 17 to 20, **characterized** in that the product is constituted by grains, the sizes of which are mainly in the range of 0.25 – 2.0 mm.

22. A product according to Claim 21, **characterized** in that the product is granulated oat meal or avenaceous starch.

23. The use of a product manufactured according to any of Claims 1 to 15 or that of a product in particle form according to any of Claims 16 to 22 in foodstuffs, such as bakery products.